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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/600,177	06/20/2003	George E. Barringer JR.	3551.1004-000	9752
21005 7590 01/27/2009 HAMILTON, BROOK, SMITH & REYNOLDS, P.C. 530 VIRGINIA ROAD P.O. BOX 9133 CONCORD, MA 01742-9133				
EXAMINER				
NOGUEROLA, ALEXANDER STEPHAN				
ART UNIT		PAPER NUMBER		
1795				
MAIL DATE		DELIVERY MODE		
01/27/2009		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/600,177

**Applicant(s)**

BARRINGER ET AL.

**Examiner**

ALEX NOGUEROLA

**Art Unit**

1795

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 17 November 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-66 is/are pending in the application.
- 4a) Of the above claim(s) 1-26 and 53-66 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 27-52 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-8508)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Response to Arguments*

1. Applicant's arguments filed November 17, 2008 have been fully considered but they are not persuasive.

#### 35 U.S.C. 102(b) rejections of claims 27 and 52

2. To the Examiner's best understanding, Applicant argues that the microprocessor of Virtanen only accepts "data", not "operational input". Data is apparently 'digital 'ones' and 'zeros'.' Does the microprocessor, *per se*, in Virtanen likely accept only digital 'ones' and 'zeros', as Applicant strains so hard to explain? Yes, but how does this teach away from a controller in Virtanen. Virtanen states, "Operation of the entire apparatus can be controlled by means of a micro-processor [emphasis added]." The entire apparatus includes fluid reservoirs, pumps, valves, an optical detector, and electrodes for creating an electric field to separate chemical species or create an electro-osmotic flow (col. 02:55 – col. 03:34). In contrast to the prior art relative to Virtanen, which limit "... the changing of system parameters during a run" (col. 02:01-04), with the apparatus of Virtanen the following *operations* can be performed

"The flow rate is adjusted to uphold the required conditions in the separating capillary 1 and, furthermore, to deny the electrolysis products of the electrodes an access to the separating capillary [emphasis added]." (col. 03:12-15)

"The amount of a sample to be injected is determined by controlling the pumping time, electric field, and electro-osmotic flow rate [emphasis added]." (col. 04:28-31)

"By modifying various parameters, type of injection, electric field, and solution flow, it is readily possible with the apparatus of the invention to introduce many different ways of sample feeding [emphasis added]." (col. 04:34-39)

"By using an apparatus of the invention, it is easy to select and implement initial and boundary conditions for various electrophoresis applications. In addition, it is possible to use combined methods by modifying the boundary conditions during an electrophoresis run [emphasis added]." (col. 04:42-49)

[Claim 5] A capillary electrophoresis apparatus as set forth in claim 1, further comprising pumps (F) operatively connected with the solution reservoirs (R1-R6), the pumps (P) independently select a feed solution coming from the solution reservoirs (R1-R6) and control a flow rate of the feed solution [emphasis added].

Thus, in contrast to Applicant's assertion, " Virtanen's microprocessor would not be physically configured to accept operational input," one with ordinary skill in the art would understand that the statement, "Operation of the entire apparatus can be controlled by means of a micro-processor" does not just mean that Virtanen only provides a microprocessor on a breadboard with wires for transmitting 'ones' and 'zeros' attached to several pins of the microprocessor, as Applicant's arguments suggest. The

statement clearly implies associated electronic means for receiving "operational input" from the user and from various components in the apparatus and converting the operational input into 'ones' and 'zeros' so that microprocessor will control the apparatus to perform the electrophoresis separation under the desired conditions. Indeed, Applicant's own argument leads one to conclude that Virtanen does not just provide *only* a microprocessor for controlling the apparatus. Consistent with Applicants painstaking argument about the limitations of a microprocessor alone, in order to handle all of the operational input disclosed by Virtanen, which may change during electrophoresis, other conventional associated electronic components are necessary in conjunction with the microprocessor for operation of the entire apparatus of Virtanen. To conclude with an analogy, the statement, "Operation of the entire airplane can be controlled by the pilot, wherein landing, take-off, altitude, and speed are adjusted as desired" does not just mean a pilot sitting in a window passenger chair in economy class. It clearly implies the cockpit with its associated means for accepting operational input.

35 U.S.C. 103(a) rejections of claims 28- 51

In regard to the rejections of claims 38-51 Applicant relies on the argument against underlying claim 27 to which the Examiner has responded above.

With regard to claim 32 Applicant further states, "Contrary to the suggestion in the Office action, Nikiforov does not teach the use of an interpreted language." Applicant cites the BASIC computer language as an example of an interpreted language disclosed by the specification of the instant application. Nikiforov states, "The computer typically includes appropriate programming to receive user input information ..." (col. 08:08-09). One of ordinary skill in the art would understand this to mean compiled or interpreted computer programming. The Wikipedia article for "Interpreted language" states, "Theoretically, any language may be compiled or interpreted, so this designation is applied purely because of common implementation practice and not some underlying property of a language ... Many languages have been implemented using both compilers and interpreters, including Lisp, Pascal, C, BASIC, and Python [emphasis added]." See the first two paragraphs of the article. Also, as shown by the PolyMorphic Systems advertisement in the Science Journal published on 10 March 1978, the BASIC interpreter was promoted for collecting data in the laboratory at least 30 years ago.

Conclusion

For the reasons set forth above all of the rejections are maintained.

***Final Rejection***

3. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ALEX NOGUEROLA whose telephone number is (571) 272-1343. The examiner can normally be reached on M-F 8:30 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, NAM NGUYEN can be reached on (571) 272-1342. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Alex Noguerola/  
Primary Examiner, Art Unit 1795  
January 22, 2009